

Work Order ID 73768 -2

Thursday, September 15, 2011 8:55:17 AM



Page 1

Item ID: D6101-001

Accept



Setup Start



Revision ID:

Stop



Item Name: Saddle Billet

Start Date: 9/15/2011 Start Qty: 40.00

SPC 15
20



Cust Item ID:

Required Date: 9/30/2011 Req'd Qty: 40.00

Customer:

Reference:

Approvals:

Process Plan:

W

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D6101

Rev B

100

0.00



Purchasing

PURCHASING

Memo

0.00

Issue P/O: 141899

a) Description: Aluminum billet

b) 6.00" x 6.250" x 2.00" thick

c) Tolerance on length are +0.030"/-0.000" ~~±0.008"~~

d) Grain direction along 6.00" length

e) Material: 7075-T7351 (QQ-A-250/12)

f) Material certification required

11-09-15

40

110

0.00



Packaging

Receive & Inspect for Damage & Mat'l Certs

Memo

0.00

Ensure material certification is attached

Rec'd 9/27/20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 73768

Thursday, September 15, 2011 8:55:17 AM



Page 2

Item ID:	D6101-001	Accept		Setup	Start	
Revision ID:					Stop	
Item Name:	Saddle Billet					
Start Date:	9/15/2011	Start Qty: 40.00		Cust Item ID:		
Required Date:	9/30/2011	Req'd Qty: 40.00		Customer:		
Reference:						

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	
	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 QC Quality Control	QC6- Inspect dimensions to drawing Memo Ensure Material certification comply to Dwg D	0.00 0.00		<i>ml 11/09/28</i>		<i>20</i>	<i>0</i>		
130 Packaging Packaging	Identify as per dwg & Stock Location: <i>MAT40</i> Memo	0.00 0.00		<i>ml 11/09/28</i>		<i>20</i>	<i>0</i>		
140 QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00							<i>11/9/28</i> <i>MF</i> <i>11-09-28</i>

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries

Picklist Print

Thursday, September 15, 2011 8:55:15 AM

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Work Order ID: 73768



Parent Item: D6101-001



Parent Item Name: Saddle Billet



Start Date: 9/15/2011

Required Date: 9/30/2011

Start Qty: 40.00

Required Qty: 40.00

Comments: IPP B: ☐01.05.04 ☐New Issue ☐EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-001P  7075-T7351 2X6X6.25		Purchased	No			110	Each	0.0000	1 	40		9/15/2011	(20)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

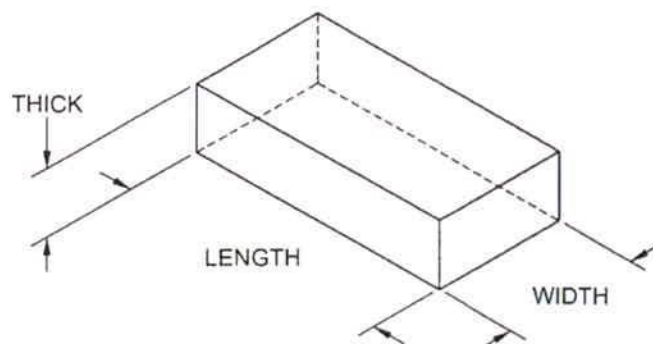
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

SPECIFICATION CONTROL DRAWING



PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

B ACCEPTABLE SPECIFICATIONS FOR 7075-T7351 ALUMINUM ARE AMS-QQ-A-250/12, QQ-A-250/12, OR ASTM B209

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6101-001	7075-T7351 (QQ-A-250/12)	6.000	6.250	2.000	Along 6.000 Length
D6101-003	7075-T7351 (QQ-A-250/12)	7.875	6.250	2.000	Along 7.875 Length
D6101-005	7075-T7351 (QQ-A-250/12)	5.000	8.250	2.500	Along 5.000 Length
D6101-007	7075-T7351 (QQ-A-250/12)	7.750	8.250	2.500	Along 7.750 Length
D6101-009	7075-T7351 (QQ-A-250/12)	8.700	8.250	2.500	Along 8.700 Length
D6101-011	7075-T7351 (QQ-A-250/12)	9.700	8.250	2.500	Along 9.700 Length
D6101-013	7075-T7351 (QQ-A-250/12)	10.100	8.250	2.500	Along 10.10 Length
D6101-015	7075-T7351 (QQ-A-250/12)	9.450	6.250	2.500	Along 9.450 Length
D6101-017	7075-T7351 (QQ-A-250/12)	6.350	6.250	2.250	Along 6.350 Length

w/ 73768

RELEASED
09/07/15/WJ

B	ADDED D6101-015/-017, ADD ASTM B209	RF	09.04.23
A	NEW ISSUE	CP	01.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D6101	SHEET 1 OF 1
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	SADDLE BILLET, 7075	NTS
DATE	09.04.23	<small>COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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NOTE: Date & initial all entries

**Castle Metals®**

A. M. Castle & Co.

BORDEREAU DE MARCHANDISES

Page 1 of 2

No de Formulaire d'Emballage / Shipment No:994855

Expédié de / Ship From:		Vendu à / Sold To:		Expédié à / Ship To:	Livré à / Deliver To:
A. M. Castle & Co. (Canada) Inc. MONTREAL 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2		DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		WILL CALL-MONTREAL 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN	WILL CALL-MONTREAL 835 SELKIRK AVENUE POINTE CLAIRE, QC H9R 3S2 CA
Date d'expédition / Date Shipped	F.O.B.	Modalités de transport / Freight Terms		Transporteur / Carrier	No du Bon de connaissance / BOL No
26-SEP-2011	ORIGIN	Prepaid		MANITOULIN	994855-2

Détails d'expédition / Shipment Details	Destination finale / Final Destination Branch - MON
--	--

N° de commande / Order No	N° de ligne Line No	N° d'article / Item No	Description	
1713957	1	752237.MO	2.0000.PL.7075.T7351.ALUMINUM.USI.48.5000.144.5000 CUT 2SIDED TO 6.25 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 6")) X 6 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 6")) - ALUMINUM PLATE SAW SPECIFICATIONS: QQ-A-250/12	
N° de bon de commande / Purchase Order No	Nbre de pièces / Part Number		Qté commandée / Ordered Qty	Qté Facturée / Invoice Qty
14899	YOUR ITEM NUMBER: D6101-001		20.00 PCS	20 PCS

Détails / Details							
N° de livraison / Delivery No :	Usine / Mill	No de coulée / Heat Number	Code méc / Mech Id	Pièces / PCS	Largeur (Pouce) / Width (IN)	Longueur (Pouce) / Length (IN)	Qté expédiée / Shipped Qty(LBS)
95812341		469765A2		9			69.67
95812341		469765A2		5			38.71
95812341		469765A2		6			46.45

Ces marchandises/technologies sont sujettes aux règlements de l'Export Administration et du département d'état des États-Unis. Si elles ont été/sont exportées, elles doivent se conformer à ces règlements. Toute modification du contrat de transport contraire aux lois des États-Unis est interdite.

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.

Nous certifions par la présente que le matériel couvert par cette certification est conforme aux spécifications susmentionnées et aux exigences applicables pour le matériel, y compris toute spécification faisant partie de la description. Les rapports d'essai sont archivés pour fins de consultation. Toute requête concernant du matériel défectueux sera rejetée à moins qu'elle ne soit faite par écrit à A. M. Castle & Co. dans les 60 jours suivant la livraison. Le matériel coupé sur mesure ou coupé par le client ne peut être retourné pour crédit.



Castle Metals®

A. M. Castle & Co.

BORDEREAU DE MARCHANDISES

Page 2 of 2

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.		
Ce matériel a été reçu et inspecté par Reviewed by Authorized Castle Metals Representative:	Date:	Name:

SHIP TO:

CASTLE METALS AEROSPACE
15 EXECUTIVE BLVD.
ORANGE, CT 06477

SOLD TO:

CAS AERO% A M CASTLE METALS
ATTN:BOB OHR % ACCTS PAYABLES
3400 NORTH WOLF RD
FRANKLIN PARK, IL 60131

KAISER ALUMINUM

Trenwood Works - Spokane, WA 99215

Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number

4161161

CUSTOMER PO NUMBER: 8352		WORK PACKAGE:		CUSTOMER PART NUMBER: 752237 AMC CA-15745		SHIP RUN/LOAD ID: 10152/7/11		GOV'T CONTRACT NUMBER:	
KAISER ORDER NO: 1082355	LINE ITEM: 1	SHIP DATE: 29-APR-2009	ALLOY: 7075	CLAD: BARE	TAPER: T 351	PRODUCT DESCRIPTION: Sawed Plate			
WEIGHT SHIPPED: 8598 LB	QUANTITY: 6 PCS EST.	B/L NUMBER: 2022480	GAUGE: 2.0000 IN	WIDTH: 48.500 IN		LENGTH: 144.500 IN			

Certified Specifications

AMS 4078/RevG
ASTM B 209/Rev07
BSS 7055/RevA
DPS 4.713/RevAH
GSS18100/RevG/Amd1

AMS-QQ-A-250/12
ASTM B 594/Rev06
CMMP 025/RevR
EAC MS1011/RevE
MMS 159/RevN

AMS-STD-2154
BAC 5439/RevH
CSTI 006/RevC
GAMPS 9101/RevB
PS 21211/RevK

Test Code: 4297

Test Results

Lot: 469785A2 Cast 222

Drop 37

Ingot 1

(ASTM E8/B557)

(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	73.4 : 73.5 (506 : 507)	11.5 : 61.8 424 : 426)	12.3 : 12.8

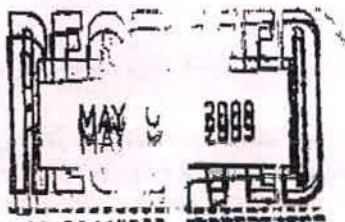
(ASTM E1004)

(EN 2004-1)

Conductivity %IACS :	40.2 Min	0.4 Max
(MS/M) :	23.3 Min	13.4 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	IN	TI	V	ZR	OTHER
Actual	0.07	0.13	1.4	0.04	2.5	0.18	.8	0.02	0.01	0.01	TOT 0.04



KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4161161

Lot: 469790A0 Cast 222 Drop 34 Ingot 2

(ASTM E8/B557)
(EN 2002-1)

Tensile	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	74.9 : 75.1 (516 : 518)	63.6 : 64.1 (439 : 442)	12.1 : 12.2

(ASTM E1004)
(EN 2004-1)

Conductivity % (ACS)	41.1 Min	41.2 Max
(MS/M)	23.8 Min	23.9 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.10	0.22	1.6	0.03	2.5	0.19	5.7	0.04	0.01	0.02	TOT 0.05

ALLOY LIMITS

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075 MIN	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder

TEST NOTES

7075-T7351 plate 3.001-3.500" thick, if ultrasonically inspected, meets requirements of CMMP025 per SDR CMMP025-KaiserT-1. 7075-T7351 plate 3.501-5.000" thick, if ultrasonically inspected, meets requirements of CMMP025 per SDR CMMP025-KaiserT-2.

Metal represented by this test report was immersion ultrasonically tested from one side and meets the Class A and Class B requirements of all specifications referenced on this test report.



CERTIFICATION

KAISER ALUMINUM FABRICATED PRODUCTS, LLC (KAISER) HEREBY CERTIFIES THAT METAL AMERICA OR A QUALIFYING COUNTRY PER DFARS 225.872-1(a), WAS MANUFACTURED IN THE UNITED STATES OF AMERICA, AND MEETS THE REQUIREMENTS OF DFARS 225.225 FOR DOMESTIC CONTENT. THIS MATERIAL HAS BEEN INSPECTED, TESTED AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT TREATED SHALL COMPLY WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF KAISER ALUMINUM FABRICATED PRODUCTS, LLC LABORATORY. RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS IS A VIOLATION OF FEDERAL LAW, 18 USC 1001.2000 CERTIFIED.

BILL POYNOR, LABORATORIES SUPERVISOR

Bill Poy